

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of)	
)	
Ben SAIDI and)	For: METHOD AND APPARATUS FOR
Mark LINDNER)	SUPPRESSING SILENCE IN
)	MEDIA COMMUNICATIONS
Serial No. 10/626,048)	
)	
Filed: July 23, 2003)	Group No. 2151

BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 223 13-1450

Sir:

In response to the Final Office Action dated October 1, 2009, Appellant on November 25, 2009 requested an Appeal to consider the issues raised or maintained in the Final Office Action. Accordingly, this Brief on Appeal under 37 C.F.R. §41.37 is being filed.

The fees required under § 41.20(b)(2) should be charged to Deposit Account No. 17-0026.

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I. Real Party in Interest

The real party in interest in this appeal is QUALCOMM Incorporated, 5775 Morehouse Drive, San Diego, California, 92121.

II. Related Appeals and Interferences

A previous Notice of Appeal of the present application under Appeal was filed on 5/21/2008, followed by the filing of an Appeal Brief on 7/15/2008 and the issuance of an Examiner's Answer to the Appeal Brief on 9/17/2008. After an interview with the Examiner, an Amendment was filed on 1/5/2009 to re-open prosecution. However, no agreement subsequent to the 1/5/2009 Amendment was reached between the Appellant and the Examiner, resulting in the present Appeal.

To the best of Appellant's knowledge, there are no other previous or pending appeals of this Application (aside from the Appeal discussed in the preceding paragraph), or patent interference proceedings, or judicial proceedings which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision of this Appeal.

III. Status of Claims

Claims 1-5, 7-11, 13-17, 19-23, 25, 27, 29, 31 and 33-36 are on Appeal, with claims 1, 7, 13 and 19 being independent.

1. Claims cancelled: 26, 28, 30 and 32.
2. Claims withdrawn from consideration but not cancelled: none
3. Claims pending: 1-25, 27, 29, 31 and 33-36.
4. Claims allowed: 6, 12, 18 and 24 (if rewritten into independent form).

5. Claims rejected: 1-25, 27, 29, 31 and 33-36.

IV. Status of Amendments

Each of the Amendments in the 6/05/2009 Amendment were entered by the Examiner as indicated in the 10/01/2009 Final Office Action. Accordingly, there are no un-entered amendments.

V. Summary of the Claimed Subject Matter

Independent claim 1 is directed to a method for reducing media transmission latency by suppressing silence frames in a stream of media, the method including requesting a group call (e.g., see **Figure 4, 402**) at a first communication device (e.g., see **302, 304, 306 of Figure 3**), receiving a stream of media from the first communication device (e.g., see **[0025] and Figure 2, receiver unit 254**), wherein said stream of media comprises of one or more silence frames, evaluating the stream of media to identify the one or more silence frames (e.g., see at least **[0041], [0047] and FIGS. 5-7**) and automatically suppressing the one or more identified silence frames from the received stream of media (e.g., see **[0037]** – **“In one embodiment, some or all of the silence frames situated before the initial media activity immediately after a user is granted floor for media delivery, e.g., initial media spurt, may be suppressed before the media is transmitted over the network.”**, see also **FIGS. 5-7 and Figure 2, controller 270**).

Independent claim 7 is directed to a computer-readable storage medium embodying a set of instructions (e.g., see **[0054]**), which, when executed by a processor, cause the processor to perform the set of instructions, the set of instructions including a set of instructions for requesting a group call (e.g., see **Figure 4, 402**) at a first communication

device (e.g., see 302, 304, 306 of Figure 3), a set of instructions for receiving a stream of media from the first communication device (e.g., see [0025] and Figure 2, receiver unit 254), a set of instructions for receiving a stream of media from the first communication device, a set of instructions for evaluating the stream of media to identify the one or more silence frames (e.g., see at least [0041], [0047] and FIGS. 5-7) and a set of instructions for automatically suppressing one or more identified silence frames from the received stream of media (e.g., see [0037]).

Independent claim 13 is directed to an apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, including means (e.g., see 302, 304, 306 of Figure 3) for requesting a group call (e.g., see Figure 4, 402) at a first communication device, means (e.g., see Figure 2, receiver unit 254) for receiving a stream of media from the first communication device (e.g., see [0025] – “the reverse link signal is received by an antenna 250, routed through a duplexer 252, and provided to a receiver unit (RCVR) 254”), wherein said stream of media comprises of one or more silence frames, means (e.g., see controller 270 of Figure 2) for evaluating the stream of media to identify the one or more silence frames and means (e.g., see controller 270 of Figure 2) for automatically suppressing the one or more identified silence frames from the received stream of media (e.g., see [0037]).

Independent claim 19 is directed to an apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, including a receiver (e.g., see Figure 2, receiver unit 254) capable of receiving information, a transmitter (e.g., See Figure 2, transmitter unit 216) capable of transmitting information and a processor (e.g., see Figure 2, controller 270, [0025]) for evaluating the stream of media to identify the one or more silence frames; and automatically suppressing one or more identified silence frames in the

stream of media wherein the stream of media is received from a user and the silence frame from the received stream of media is suppressed (e.g., see [0025] and [0037]).

VI. Grounds of Rejection to be Reviewed on Appeal

In the September 1, 2009 Final Rejection, the Office finally rejected:

- (1) Specification Objection
- (2) Claims 1-5, 7-11, 13-17, 19-23, 25, 27, 29, 31 and 33-36 under 35 U.S.C. § 102(e) as being allegedly anticipated by U.S. Patent No. 6,785,262 (“Yao”).

VII. Argument

(1) Regarding the (1) Specification Objection.

The claim language of “evaluating the stream of media to identify the one or more silence frames” is objected to for allegedly lacking antecedent basis from the Specification pursuant to 37 CFR. 1.75(d)(1) and MPEP 608.01(o).

In the Amendment of 6/5/2009 and the Pre-Appeal Brief of 11/25/2009, the Appellant explained in detail how the Specification supports the claim language of “evaluating the stream of media to identify the one or more silence frames” because embodiments in the Specification describe selectively suppressing silence frames or not suppressing silence frames, for example, based on how many successive silence frames are present. For example, Paragraph [0041] states:

... In one embodiment, the silence frame that follows a first predetermined number of silence frames following a first media frame and precedes a second predetermined number of silence frame preceding a media frame subsequent to the first media frame is suppressed.

Paragraph [0047] states:

[0047] When the silence frame J following four silence frames F, G, H, and I is received, as shown by 734, silence frame H is punctured, because the predetermined

number of silence frames separating media frames 6 and 7, e.g., F, G, I and J, are kept in the buffer for transmission to the target CD...

Numerous additional examples are present in the Specification, which Appellant omits here for the sake of brevity. Essentially, embodiments in the Specification describe selectively suppressing silence frames or not suppressing silence frames, for example, based on how many successive silence frames are present. This could not be achieved unless the silence frames were identified, otherwise the silence-frame suppression process would essentially be operating blindly and could not verify correct operation.

The Examiner appeared to accept the Appellant's position as articulated above, but the Specification objection was maintained in the 10/1/2009 Final Office Action because "the instant application specification only directed to media frames not media streams" and the Appellant's clarification "merely evaluates the silence frames rather than evaluating media stream(s)" (e.g., see Page 6 of the 10/1/2009 Final Office Action, Emphasis is Examiner's).

Independent claim 1, for example, recites "receiving a stream of media from the first communication device, wherein said stream of media comprises of one or more silence frames" and "evaluating the stream of media to identify the one or more silence frames". A stream of media in the context of the claims corresponds to any sequence of two or more frames, as is known in the art, with the claim further requiring that the stream of media have at least one silence frame. Accordingly, when a frame in a particular media stream is evaluated such that the silence frame(s) are detected, it follows that the stream of media itself has been evaluated. In other words, by demonstrating how the individual frames are evaluated as either silence frames or non-silence frames, Appellant has shown how the claim language of "evaluating the stream of media to identify the one or more silence frames" is supported.

For further support, FIG. 6 of the Specification illustrates an example whereby “two silence frames following a media frame and two silence frames preceding a subsequent media frame are transmitted”, and any other silence frames are suppressed or not transmitted (e.g., see [0042] of the Specification). To implement such an operation, it will be appreciated that the media stream 602 of FIG. 6, which contains both media and silence frames, has to be evaluated to figure out which frames are silence frames and which frames are media frames and further to figure out which silence frames are to be dropped in accordance with the above-noted rule. Thus, the individual frames are evaluated as silence or non-silence frames, and then the relationships of the silence frames to the media frames within the stream are evaluated to determine whether a particular silence frame is to be dropped (i.e., in the example of FIG. 6, this means that if the silence frames is within two frames of a media frame then do not drop the silence frame; if not, drop the silence frame).

Appellant respectfully requests that the Board of Appeals withdraw this rejection because the claim language of “evaluating the stream of media to identify the one or more silence frames” is supported by the Specification.

(2) Regarding the rejection (2) of independent claims 1, 7, 13 and 19, and/or the claims dependent thereon, under U.S.C. §102(e) to Yao.

Independent claim 1 recites in part “evaluating the stream of media to identify the one or more silence frames” and “automatically suppressing the one or more identified silence frames from the received stream of media”. This limitation is similarly recited in independent claims 7, 13 and 19. Silence frames correspond to frames (e.g., in an audio or voice communication) that do not actually include information or data (e.g., see [0002] of the

Specification). As will now be explained, the manner in which Yao drops frames is not consistent with a reasonable interpretation of the above-noted claim limitations.

1. Discussion of Yao.

Yao is directed to a method and apparatus for voice latency reduction in a voice-over-data wireless communication system (e.g., see Yao, Title and Abstract). With respect to Figure 8 of Yao, Yao teaches (i) analyzing communication system latency (802), (ii) determining whether the latency, as indicated by a frame error rate (FER), is above a threshold (804), and (iii) dropping frames at different fixed rates (806, 808) based on the determination from (ii) (e.g., See Yao at Figure 8, steps 802-808, and also Col. 19, line 49 – Col. 20, line 41).

In Yao, a latency (which can be inferred from the FER) is compared with the threshold to determine a rate at which to drop packets. Packets are then dropped in a “blind” fashion, at the selected rate (e.g., See Yao at Col. 10, line 67 to Col. 11, line 11, and also Col. 19, line 49 – Col. 20, line 41). Communication system latency may be incidentally related to the rate or probability of frames being “silent”, or not including data. However, the threshold used in step 804 of Figure 8 is not established to identify particular silence frames or to ensure that dropped frames are silent frames, but is rather selected as part of a probabilistic packet dropping process based on an associated latency (which is based on the error rate) (e.g., see Yao at Col. 8, line 62 to Col. 9, line 3). Thus, Yao simply relies on the assumption that “more” low rate frames (which are not necessarily “silence” frames, e.g., see Yao at Column 8, line 62 to Column 9, line 3) will be dropped when the latency (or FER) is above the threshold than when the latency (or FER) is below the threshold.

Any dropped frames, irrespective of whether the rate is lower (e.g., 806 of Figure 8) or higher (e.g., 808 of Figure 8), are based solely on a probabilistic value associated with the selected rate. Thus, if the drop rate is 1 out of every 100 packets, the system of Yao counts up to 100, drops a packet, counts up to 100 again, drops another packet, and so on (e.g., See example provided by Yao at Col. 10, line 66 to Col. 11, line 11). This has nothing to do with whether a particular dropped packet identified a silence packet, but merely whether the packet stream, in general, is expected to include more or fewer low rate frames, as indicated by the communication channel latency inferred from the FER. It will be appreciated that this process could drop a media frame that includes data as readily as a low rate frame that includes less data. It is also possible that each dropped frame could be a non-silence frame, again, because frame-dropping in Yao is based on a fixed, rate-dropping schedule, and not a characteristic of any particular frame (i.e., whether the frame is a silence frame).

2. Distinctions of the claims over Yao.

Because Yao teaches dropping frames at a fixed frame-interval when the latency (or FER) rises above a threshold, Yao does not disclose “evaluating the stream of media to identify the one or more silence frames” and then “automatically suppressing the one or more identified silence frames from the received stream of media” as recited in independent claim 1 and similarly recited in independent claims 7, 13 and 19. Yao simply operates in a different manner, whereby frames are dropped at a fixed interval when the communication channel latency rises above a threshold. Accordingly, the frames that are dropped in Yao could be silence frames **or** media frames. Fixed-rate dropping of frames in a stream that includes both silence and non-silence frames, as in Yao, appears to be

implemented specifically so that the individual frames of the streams are not evaluated, such that Yao does not anticipate the above-noted claim language.

In the 10/1/2009 Final Office Action, the Examiner indicates the Appellant's position that Yao does not drop 'silence' frames at a predetermined rate but rather simply discloses dropping frames at a predetermined rate which may be silence frames or data frames is not persuasive because (i) "[t]he person skilled in the art would recognize improving channel quality and latency would be possible with/by determining number of silence frames" and (ii) "Yao clearly discloses that dropping silence frame at rate of 1 frame dropped per hundred frames" (e.g., see Page 3 of the 10/1/2009 Final Office Action). However, (i) appears to admit that Yao does not actually disclose the "evaluating" step, and (ii) is a clear mischaracterization of Yao because Yao does not disclose that the dropped frame is actually a silence frame. Indeed, such an evaluation would be pointless because Yao drops frames in a fixed, predetermined manner, and does not 'single out' silence frames to drop selectively.

Also in the 10/1/2009 Final Office Action, the Examiner indicates the Appellant's position that Yao does not disclose that the dropped frame is actually a silence frame is not persuasive because Yao defines silence frames (e.g., see bottom of Page 3 and top of Page 4 of the 10/1/2009 Final Office Action). However, Yao's mere acknowledgment that silence frames exist is insufficient to show that the frames being dropped at a fixed, predetermined interval are silence frames.

3. 35 U.S.C. § 102(e) rejection to Yao is improper even based on the Examiner's own assertions

Also in the 10/1/2009 Final Office Action, the Examiner discusses that Yao is evidence with regard "why the person skilled in the art would drop frames and such dropping

would lead to improve the latency in packet transferring” (e.g., see Page 4 of the 10/1/2009 Final Office Action). In a proper 35 U.S.C. § 102 rejection, a single reference must be asserted, with additional references or teachings only being relevant to show an inherent feature that is not explicitly set forth in the single reference. However, nowhere in Yao does Yao actually disclose determining the number of silence frames, or even determining any particular silence frame. Thus, this assertion regarding the alleged recognition of one of ordinary skill in the art appears to be based on obviousness (i.e., on what one of ordinary skill in the art would recognize, not upon what is actually disclosed in Yao) rejection cannot satisfy the requirements of 35 U.S.C. § 102 and must be withdrawn. As discussed in the Amendment of 3/5/2009, Appellant further submits that the Examiner’s rationale is incorrect even when considered under a 35 U.S.C. § 103 framework.

In view of the remarks presented above, the Appellant respectfully submits that each of independent claims 1, 7, 13 and 19 are allowable over Yao. As such, claims 2-3, 7, 9-10, 13, 17-18, dependent upon independent claims 1, 6, 8, 12 and 16, are likewise allowable over Freese at least for the reasons given above with respect to the independent claims.

Appellant respectfully requests that the Board of Appeals withdraw this art grounds of rejection.

4. Yao does not disclose or suggest determining whether one or more silence frames occur between successive media or non-silence frames as recited in dependent claims 33-36

Claim 33, for example, further recites the step “determining whether the stream of media includes one or more silence frames between successive media frames” and suppressing silence frames based on this determining step. This limitation is similarly recited

within claims 34-36. The Examiner alleges that claim 33 is anticipated by Yao at Columns 10 line 55 – Column 12, line 50 (e.g., see Pages 11-12 of the 10/01/2009 Final Office Action). However, this section of Yao merely describes different embodiments where frames are dropped at predetermined, fixed rates (e.g., see Yao at Col. 10, lines 66-67, Col. 11, lines 16-18, Col. 11, lines 25-27, Col. 11, lines 51-52) or at a variable rate (i.e., based on some type of formula) (e.g., see Yao at Col. 12, lines 30-31). This section of Yao does not determine whether silence frames occur “between successive media frames”, nor does this section imply any such teaching.

Accordingly, Appellant respectfully requests that the Appeal Board withdraw this art grounds of rejection as it relates to claims 33-36 for at least this additional reason.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

IX. EVIDENCE

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the Office is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in Section II, above.

XI. CONCLUSION

The Appellant respectfully submits that claims 1-25, 27, 29, 31 and 33-36 are patentable over the applied art and that all of the rejections and objections of record should be reversed.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 17-0026 for any additional fees required under 37 C.F.R. § 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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Dated: 2010-02-22

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APPENDIX A: CLAIMS

1. (Previously Presented) A method for reducing media transmission latency by suppressing silence frames in a stream of media, the method comprising:
 - requesting a group call at a first communication device;
 - receiving a stream of media from the first communication device, wherein said stream of media comprises of one or more silence frames;
 - evaluating the stream of media to identify the one or more silence frames; and
 - automatically suppressing the one or more identified silence frames from the received stream of media.
2. (Original) The method of claim 1, wherein said suppressing includes suppressing an initial silence frame situated before a first media frame.
3. (Original) The method of claim 1, wherein said suppressing includes suppressing all initial silence frames situated before a first media frame.
4. (Original) The method of claim 1, wherein said suppressing includes suppressing a silence frame situated between two successive media frames.
5. (Original) The method of claim 4, wherein said suppressing a silence frame includes suppressing the silence frame that is in excess of a predetermined number of silence frames situated between the two successive media frames.

6. (Original) The method of claim 5, wherein said suppressing the silence frame includes suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

7. (Previously presented) A computer-readable storage medium embodying a set of instructions, which, when executed by a processor, cause the processor to perform the set of instructions, the set of instructions comprising:

- a set of instructions for requesting a group call at a first communication device;
- a set of instructions for receiving a stream of media from the first communication device,
- a set of instructions for receiving a stream of media from the first communication device;
- a set of instructions for evaluating the stream of media to identify the one or more silence frames; and
- a set of instructions for automatically suppressing one or more identified silence frames from the received stream of media.

8. (Previously presented) The computer-readable storage medium of claim 7, wherein said suppressing includes suppressing an initial silence frame situated before a first media frame.

9. (Previously presented) The computer-readable storage medium of claim 7, wherein said suppressing includes suppressing all initial silence frames situated before a first media frame.

10. (Previously presented) The computer-readable storage medium of claim 7, wherein said suppressing includes suppressing a silence frame situated between two successive media frames.

11. (Previously presented) The computer-readable storage medium of claim 10, wherein said suppressing a silence frame includes suppressing the silence frame that is in access of a predetermined number of silence frames situated between the two successive media frames.

12. (Previously presented) The computer-readable storage medium of claim 11, wherein said suppressing the silence frame includes suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

13. (Previously Presented) An apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, comprising:

means for requesting a group call at a first communication device;

means for receiving a stream of media from the first communication device, wherein said stream of media comprises of one or more silence frames;

means for evaluating the stream of media to identify the one or more silence frames; and

means for automatically suppressing the one or more identified silence frames from the received stream of media.

14. (Original) The apparatus of claim 13, wherein said means for suppressing includes means for suppressing an initial silence frame situated before a first media frame.

15. (Original) The apparatus of claim 13, wherein said means for suppressing includes means for suppressing all initial silence frames situated before a first media frame.

16. (Original) The apparatus of claim 13, wherein said means for suppressing includes means for suppressing a silence frame situated between two successive media frames.

17. (Original) The apparatus of claim 16, wherein said means for suppressing a silence frame includes means for suppressing the silence frame that is in access of a predetermined number of silence frames situated between the two successive media frames.

18. (Original) The apparatus of claim 17, wherein said means for suppressing the silence frame includes means for suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

19. (Previously Presented) An apparatus for reducing media transmission latency by suppressing silence frames in a stream of media, comprising:

a receiver capable of receiving information;

a transmitter capable of transmitting information; and

a processor for evaluating the stream of media to identify the one or more silence frames;

and automatically suppressing one or more identified silence frames in the stream of media wherein:

the stream of media is received from a user and the silence frame from the received stream of media is suppressed.

20. (Original) The apparatus of claim 19, wherein said suppressing includes suppressing an initial silence frame situated before a first media frame.

21. (Original) The apparatus of claim 19, wherein said suppressing includes suppressing all initial silence frames situated before a first media frame.

22. (Original) The apparatus of claim 19, wherein said suppressing includes suppressing a silence frame situated between two successive media frames.

23. (Original) The apparatus of claim 22, wherein said suppressing a silence frame includes suppressing the silence frame that is in access of a predetermined number of silence frames situated between the two successive media frames.

24. (Original) The apparatus of claim 23, wherein said suppressing the silence frame includes suppressing the silence frame that follows a first predetermined number of silence frame following a first media frame and precedes a second predetermined number of silence frame proceeding a media frame subsequent to the first media frame.

25. (Previously presented) The method of claim 1 further comprising buffering and then forwarding the suppressed stream of media.

26. (Canceled)

27. (Previously presented) The computer-readable medium of claim 7 further comprising a set of instructions for buffering and then forwarding the suppressed stream of media.

28. (Canceled)

29. (Previously presented) The apparatus of claim 13 further comprising means for buffering and then forwarding the suppressed stream of media.

30. (Canceled)

31. (Previously presented) The apparatus of claim 19 wherein the processor further buffers and then forwards the suppressed stream of media.

32. (Canceled)

33. (Previously presented) The method of claim 1 further comprising:
determining whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data; and
wherein the one or more silence frames are suppressed based on the determining step.

34. (Previously presented) The computer-readable storage medium of claim 7, wherein the set of instructions when executed by one or more processors further comprises:

a set of instructions for determining whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data; and

wherein the one or more silence frames are suppressed based on the determining step.

35. (Previously presented) The apparatus of claim 13, further comprising:

means for determining whether the stream of media includes one or more silence frames between successive media frames of the stream of media, each media frame including data; and

wherein the one or more silence frames are suppressed based on the means for determining.

36. (Previously presented) The apparatus of claim 19, wherein the processor is further

configured to determine whether the stream of media includes one or more silence frames

between successive media frames of the stream of media, each media frame including data, and

to suppress the one or more silence frames based on the determination.

APPENDIX B: EVIDENCE

(None)

APPENDIX C: RELATED PROCEEDINGS

(None)